

REMARKS

Claims 1-25 are pending in the application.

Claims 1-25 have been rejected.

Claim 1 has been amended as set forth herein.

Claims 1-25 remain pending in this application.

Reconsideration of the claims is respectfully requested.

I. CLAIM REJECTIONS – DOUBLE PATENTING

Claims 1, 10 and 18 were rejected as unpatentable under the judicially created doctrine of double patenting over Claim 1 of copending U.S. Patent Application No. 10/955,904 (hereinafter “the ‘904 application”). The Applicants respectfully traverse the rejection.

Obviousness-type double patenting requires rejection of an application claim when the claimed subject matter is *not* patentably distinct from the subject matter claimed in a commonly owned patent, when the issuance of a second patent would provide unjustified extension of the term of the right to exclude granted by a patent. MPEP § 804, p. 800-21 (8th ed., rev. 4, October 2005) (emphasis added). A double patenting rejection of the obviousness-type is analogous to the non-obviousness requirement of 35 U.S.C. § 103 except that the patent principally underlying the double patenting rejection is not considered prior art. *Id.* (citations omitted).

The Examiner asserts that Claim 1 of the ‘904 application is a broader recitation of the same invention claimed in Claims 1, 10 and 18 of the present application. For the convenience of the Examiner, two of the claims at issue are reproduced below. Claim 1 of the ‘904 application recites:

1. A pattern recognition system comprising:
 - a controller having at least one input receiving a test frame sequence and a plurality of signal frames to be searched for matches to the test frame sequence, wherein the controller:
 - identifies as potential matches each sequence of frames within the plurality of signal frames having a frame with an energy magnitude that is within a predetermined difference of a local maximum energy magnitude for frames within the test frame sequence; and
 - compares total energy for each potential match frame sequence to total energy of the test frame sequence. (*Emphasis added*).

While, in contrast, Claim 1 of the present application recites:

1. An apparatus, comprising:
 - a cross correlator operable to receive a first audio signal and a second audio signal, the cross correlator also operable to cross correlate the first and second audio signals to produce a cross-correlated signal;
 - at least one parameter identifier operable to receive the cross-correlated signal and identify a plurality of parameters associated with at least one of the first and second audio signals using the cross-correlated signal; and
 - a score generator operable to receive the plurality of parameters and generate an indicator identifying an extent to which the first and second audio signals match.

Thus, Claim 1 of the '904 application recites receiving a test frame sequence and a plurality of signal frames, while Claim 1 of the present application recites receiving first and second audio signals without requiring that the audio signals comprise frames. Furthermore, Claim 1 recites identifying matching frames by comparing an energy magnitude of frames, while Claim 1 of the present invention recites an apparatus that cross correlates, identifies parameters, and generates a matching indicator without requiring a comparison of energy magnitudes. Finally, Claim 1 of the '904 application recites comparing a total energy of frame sequences, while Claim 1 of the present application generates a matching indicator without requiring a comparison of total energy. Claims

10 and 18 of the present application similarly recite inventions that need not receive frames, compare energy magnitudes, or compare total energy.

As such, Claim 1 of the '904 application includes at least the above emphasized limitations that are not present in Claims 1, 10 and 18 of the present application and, therefore, Claim 1 of the '904 application cannot be properly characterized as a broader recitation of the same invention claimed in Claims 1, 10 and 18 of the present application. Accordingly, the Applicant respectfully requests that the Examiner withdraw the double patenting rejection.

II. CLAIM REJECTIONS -- 35 U.S.C. § 103

Claims 1-4, 10-13 and 18-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,944,510 to *Ballesty, et al.* (hereinafter "Ballesty") in view of U.S. Patent Application Publication No. 2004/0093202 to *Fischer, et al.* (hereinafter "Fischer"). Claims 5-6, 14-15 and 22-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fischer and Ballesty as applied to claim 1 above, in view of U.S. Patent 5,890,187 to *Asghar* (hereinafter "Asghar") and further in view of U.S. Patent No. 5,774,851 to *Miyashiba, et al.* (hereinafter "Miyashiba"). Claims 7, 16 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fischer and Ballesty as applied to claim 1 above, in view of Miyashiba. Claims 8, 17 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fischer and Ballesty as applied to claim 1 above, in view of U.S. Patent No. 5,845,247 to *Miyasaka* (hereinafter "Miyasaka"). The Applicant respectfully traverses the rejection. The Applicant respectfully traverses the rejections.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142, p. 2100-133 (8th ed. rev. 4, October 2005). Absent such a *prima facie* case, the applicant is under no obligation to produce evidence of nonobviousness. *Id.* To establish a *prima facie* case of obviousness, three basic criteria must be met: *Id.* First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *Id.* Second, there must be a reasonable expectation of success. *Id.* Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *Id.* The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *Id.*

Fischer describes a system for identifying identical or similar segments of audio recordings where similarity between first and second segments is determined by calculating a characteristic signature from at least one local feature of the first segment, calculating a characteristic signature from at least one local feature of the second segment, aligning the two signatures, and calculating a distance between the aligned signatures to determine similarity. *Fischer, Abstract.* That is, a single characteristic signature is calculated for each segment, the two signatures are aligned, and similarity is determined from the aligned signatures.

Ballestry describes a method for extending the duration of audio signals while maintaining their original pitch. *Ballestry, col. 1, lines 4-9.* As one step in the method, an original frame of the audio signal is copied and the original and copied frames partially overlapped. *Ballestry, col. 2, lines*

10-13. A cross correlation is performed on the two frames to find their point of maximum similarity and the result used to align the two frames. *Ballestry, col. 4, lines 43-48.* Thus, Ballestry teaches using a cross correlation to align original and copied frames of audio signals.

The only alignment step in Fischer is the step of aligning the calculated characteristic signatures. Therefore, a person of skill in the art might utilize the cross correlation of Ballestry in aligning the signatures of Fischer. However, neither Fischer nor Ballestry teaches, suggests or even hints at cross correlating the audio recording segments of Fischer, as proposed by the Examiner.

Additionally, a cross correlation of Fisher's first and second audio recording segments produces a single cross correlation signal. Fischer describes how to process two signals to determine the similarity of two audio segments, but throughout Fischer the signals remain separate—they are never combined into a single signal. Furthermore, Fischer describes calculating only a single characteristic signature for each audio segment, not a plurality of parameters.

As such, there is no teaching in Fischer or Ballestry of cross correlating first and second audio signals, identifying from the cross correlated signal a plurality of parameters, and generating from the plurality of parameters an indicator of the extent to which the audio signals match, as recited in Claim 1. The Applicants submit that Asghar, Miyashiba and Miyasaka do nothing to overcome the shortcomings of Fischer and Ballestry.

For at least these reasons, independent Claim 1 is patentable over the cited references. Independent Claims 10 and 18 recite limitations analogous to the novel and non-obvious limitations emphasized above in traversing the rejection of Claim 1 and, therefore, also are patentable over the cited references. Claims 2-9, 11-17 and 19-25 depend from Claims 1, 10 and 18, respectively, and

include all the limitations of their respective base claims. As such, Claims 2-9, 11-17 and 19-25 also are patentable over the cited references.

Accordingly, the Applicants respectfully request that the Examiner withdraw the § 103 rejection with respect to Claims 1-25.

CONCLUSION

As a result of the foregoing, the Applicants assert that the remaining Claims in the Application are in condition for allowance, and respectfully request an early allowance of such Claims.

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *jmockler@munckbutrus.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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